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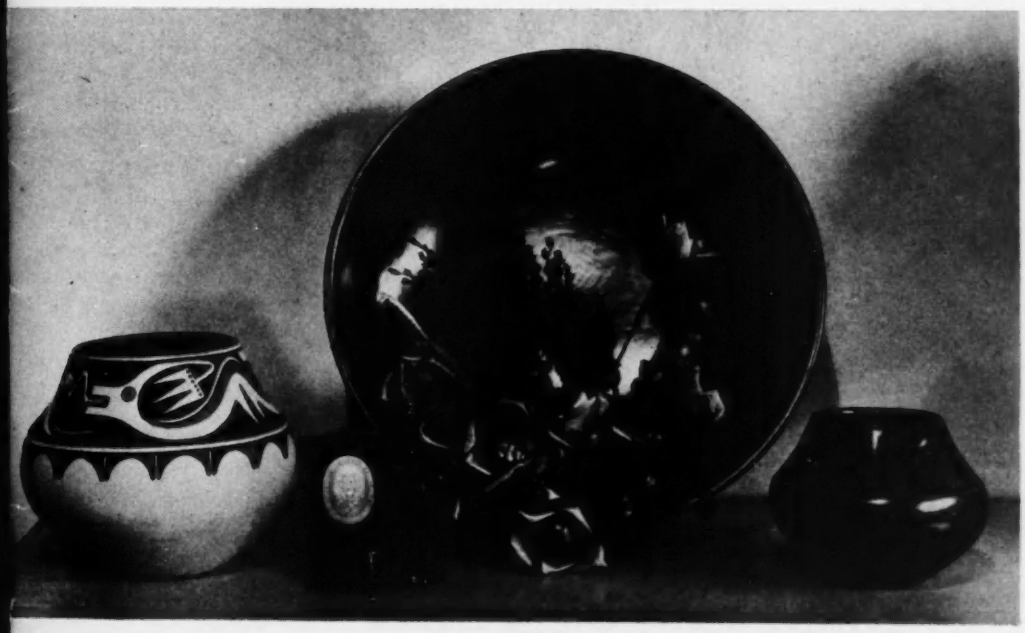
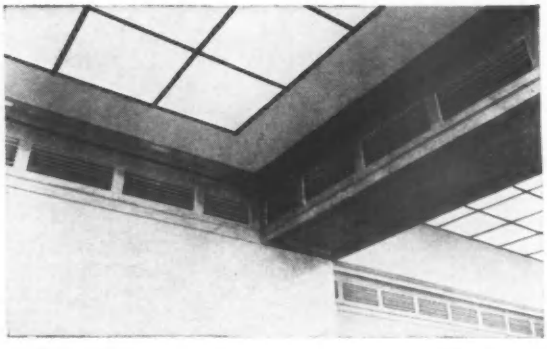
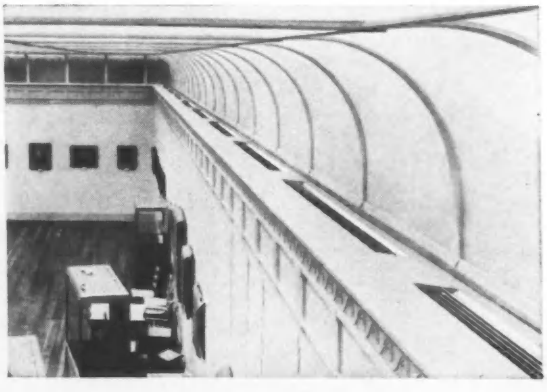


NOVEMBER 1959, Vol. 3, No. 3

EIGHTH REGIONAL CONFERENCE REPORT

Draftless Anemostat Air Diffusers at Sterling and Francine Clark Art Institute





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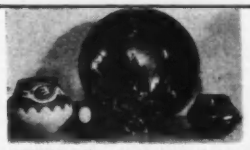

November, 1959
Volume 3, No. 3

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Signed articles reflect the views of the authors and do not necessarily represent the official position of the Arizona Society of Architects or the Central or Southern Arizona Chapters, AIA.

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THE PRESIDENTS' PAGE

CENTRAL ARIZONA CHAPTER

John Brenner

SOUTHERN ARIZONA CHAPTER

Edward H. Nelson

HATS OFF AND thanks to Miles Brittelle, Jim Liberty, Bill Burk, their charming wives, and all the others of the New Mexico Chapter whose gracious, friendly hosting made the 1959 Western Mountain Regional Conference a notable success and a most enjoyable affair.

During the Conference a special meeting was called to discuss present construction policies of the Bureau of Indian Affairs, and to formulate a program for concerted and prompt action to combat what was felt to be an ill-advised method of procedure in contracting for, and constructing schools, buildings, dining halls, dormitories and various other facilities for the use and occupancy of Indians.

Apparently without any attempt to avail itself of professional advice or consultation, the Department of the Interior proposed and presented to our congressional appropriations committees a scheme whereby contractors could bid to construct buildings using methods and material of their own choosing, so long as they complied with criteria covering a few vaguely-defined elements of space needs, thermal conductivity and the like.

It appears to us that the Secretary of the Interior has sold the congressional appropriations committees a "bill of goods." We can only surmise that he, himself, has been misled into believing somewhat in fairy tales, since the testimony presented in gaining the congressional approval of his scheme was far from factual.

Certainly if any thought had been given to the welfare of the people most concerned, the Indians, it would have become obvious that such a system of bidding was not in the public interest. Even in the interest of immediate economy (which is questionable), buildings constructed for human occupancy under a program devoid of pre-planning and design seems thoughtless, and smacks of utter disregard for environmental contentment.

We believe that our Indians, who constitute a sizeable percentage of our state's population, are entitled to education and health facilities more nearly comparable to similar facilities being provided in the average American community.

IN THIS PERIOD of ferment, when new ideas on education are being considered and tested, and criticisms of high costs of school buildings are heard, architects and educators alike must re-evaluate school building design and costs.

School building is big business. Public school expenditures have risen sharply since 1957, the year of Sputnik I. They are now 3.15% of the gross national product or $14.1 billions. Over the next ten years approximately $40 billions will be spent nationally to build and equip schools and colleges. One hears local school administrators talking about the need to build 100 classrooms a year to keep up with our expanding school populations.

Education and educational facilities are coming under closer scrutiny locally and nationally. We hear of Dr. Conant's report; the Committee of Economic Development Report, soon to be issued; and the Ford Foundation's Educational Facilities Laboratories' program of research. EFL has produced its first year's report, in which it is very critical of existing school buildings. EFL has found one surprising characteristic of schools — their sameness. It believes the modern school to be a vast improvement over earlier schools and yet always there is an insensitive arrangement of teachers and children, relieved only by the teacher's ingenuity in forming groups within the group. Rarely, it found, does one see acknowledged in school design that certain types of learning — remedial for the slow, tutorial for the quick — should take place in smaller than classroom spaces, or that under benign circumstances a hundred or more children may profitably be gathered together from time to time to learn.

EFL points out that exceptional schools which have departed from customary design have not come from educators who operate only as administrators, from school boards and trustees who forget that today's new school will be standing and operating well into the next century, or from architects who are satisfied to be only cosmeticians.

Let us remember that we are not only building schools to fit a school district's budget, but also schools that will be expected to serve for perhaps fifty years.

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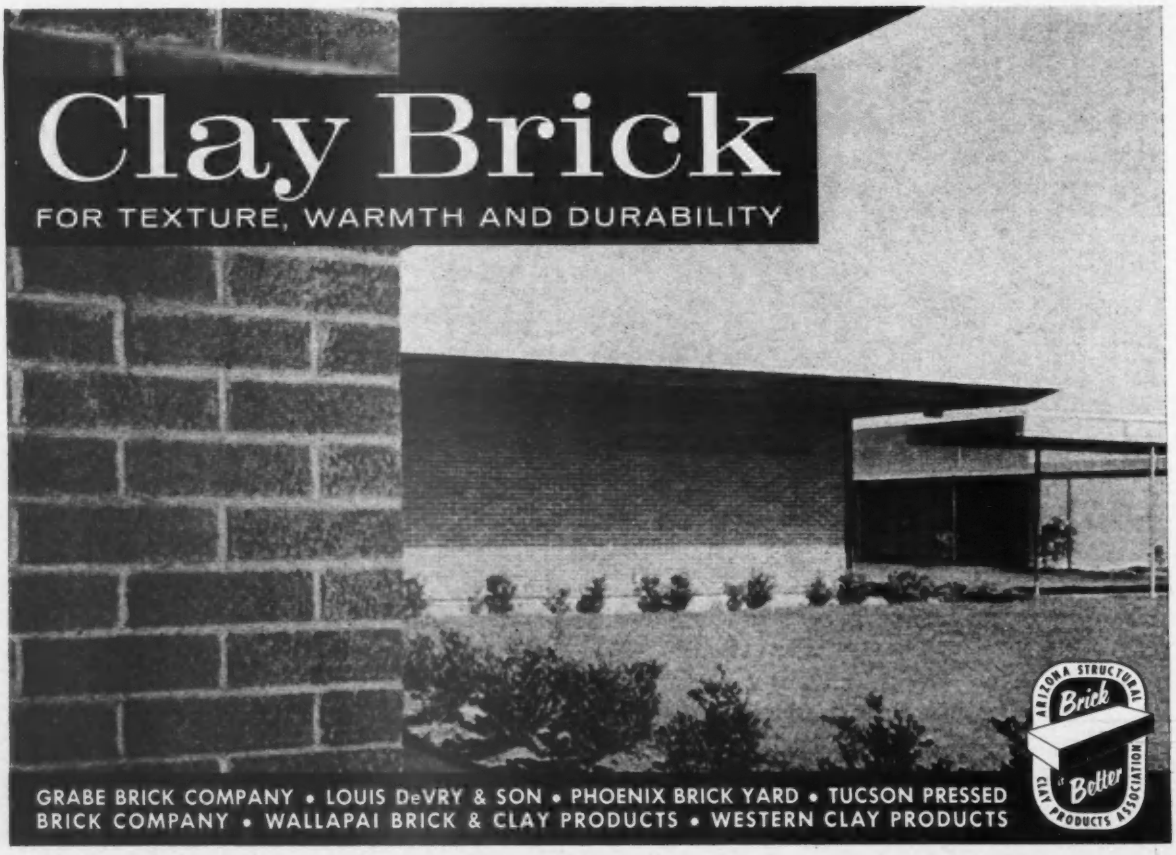
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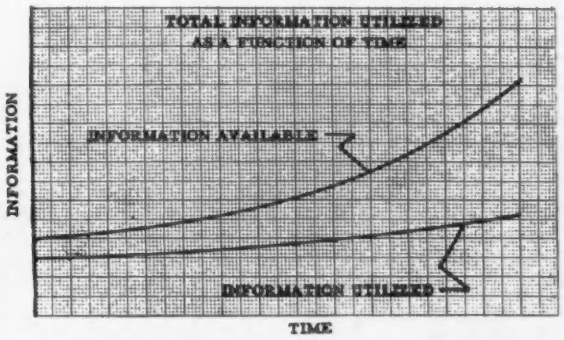
The Editor's PERSPECTIVE

"Science in Architecture" was the theme of the 8th Western Mountain Regional Conference of the AIA, held in Albuquerque October 8-10th. There were several provocative talks by the distinguished guests, and *Arizona Architect* is pleased to reprint major portions of them in this issue. We regret our inability to reproduce the many fine illustrations.

One thread of concern was noted in several of the talks. It had to do with the accelerated accumulation of knowledge in the sciences, and the increasing difficulty of assimilating and using this knowledge.

Dr. Clayton S. White, Director of Research at the Lovelace Foundation for Medical Education and Research, used the accompanying chart to indicate the increase in total information available, relative to a given profession, and to show the percent of information utilized as a function of time.



Dr. White said: "The area between the two curves not only represents data at hand not put to work but truly lays out many approaches to a better world and a better way of life, because the products of science – past, present and future – actually embody assets which do not depreciate with time. Too, they are there for the taking by any individual or group having the desire and ambition to mine the gems of research."

Then Herbert H. Swinburne, AIA, of the Philadelphia architectural firm of Nolen and Swinburne, said:

"The architect must become a specialist in all branches of learning so that he may apply their principles to his buildings, to all space between buildings, to cities and whole regions. He must soak up more and more knowledge in so many diverse fields that, no longer a specialist, he now becomes a generalist. The architect is the most highly trained professional whose background cuts across all disciplines. He must use a full panorama of knowledge as the backdrop against which he can create our new environment. In short, he must now become familiar with all the sciences as well as all the arts."

It's a heavy responsibility and one that requires conscientious effort if the architect would avoid letting both himself and his profession down.

Since knowledge grows upon the building blocks of previous knowledge held, and since science vastly affects both design and the materials with which the architect may work, a general knowledge of science seems essential.

Doubleday & Company has recognized the increasing need for general science information and has recently published several books that will be helpful. Among these are the first five of a "Science Study Series" of paperbacks under the Anchor label. Each sells for 95 cents, and each one contains basic information that can be easily assimilated.

The series is offered as a part of a fresh approach to the teaching and study of physics. The series is guided by the Board of Editors of the Physical Science Study Committee, an organization set up at M.I.T. in 1956 by a group of physicists, high school teachers, journalists, apparatus designers, film producers and others.

First in the series is **The Neutron Story,** by Donald J. Hughes. In it, the author explores the nature of matter, demonstrating that the neutron is the most potent, the most useful, and the most enigmatic of all the fundamental particles of matter-energy.

Magnets, by Francis Bitter, is an account of explorations into the bewildering forces exerted by magnets and their applications in atomic research on up to naval warfare.

Soap Bubbles, by C. V. Boys, is a classic of science literature, and relates experiments which illustrate many of the basic forces of nature.

Echoes of Bats and Men, by Donald R. Griffin, reveals how studies of bats, porpoises, and whirligig beetles and of electronic radar and sonar are now expanding man's understanding of physics.

How Old Is The Earth? by Patrick M. Hurley, deals with the mystery surrounding the origins and structure of the earth, and the various avenues of research that have shed light on the mystery.

Earlier in the year, Doubleday published **The Simplicity of Science,** by Stanley D. Beck, a beautifully written book that presents the basic concepts of science in terms which anyone can understand. In this small volume, Dr. Beck relates the various branches of science one to another, shows how science pervades our lives and how it meshes with art, philosophy and religion.

Phil Stitt

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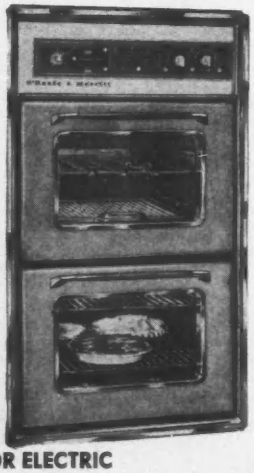

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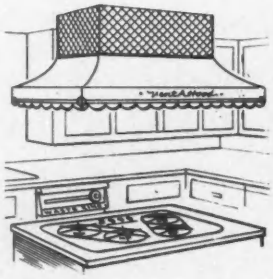

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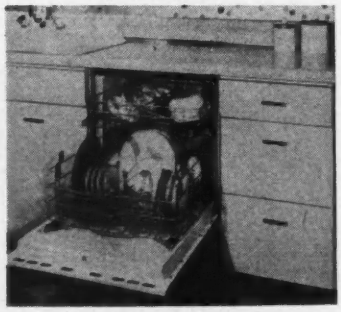

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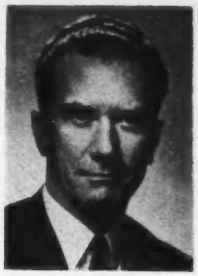


Environment For The Aspirations Of Man

By
HERBERT H. SWINBURNE, AIA
Nolen & Swinburne, Architects,
Philadelphia, Pa.
Member of AIA Research Committee

"Legacy, 1999" — Condensed from an address before the Western Mountain Region Conference

A century and a half ago, Webster, in defining the word 'Architecture' said it was the "art of building; but in a limited and appropriate sense the art of constructing buildings for the purpose of civil life." Today, the word is defined in almost the same language except to say architecture is the "art or science of building . . . " and with this one word, "science," Webster adds the effects of a century of Industrial Revolution and scientific advancement to the concept of architecture.

The sticks and stones of shelter, submitted to the sophisticated manipulation of science and technology, have now become the buildings, great and small, of the 20th century. The public at large, and many architects, think of Architecture in terms of separate buildings. They are conceived as an assembly of materials and equipment shaped to perform some function efficiently, economically and beautifully.

The physical aspects of architecture and its appreciation through visual perception are well understood, particularly as they relate to individual buildings — less so as they relate to groups of buildings.

I suggest, however, that today the definition of architecture, its concept by people everywhere, and its actual practice by the professional, is too limiting. It is too narrow in scope — only part of a larger picture. Too much of an emphasis on concrete, physical evidence; too little understanding of man and society. Too little recognition of the true role the architect should assume.

Since man met other forms of life and shared a natural environment with them he has been dissatisfied. He has constantly altered, changed and rearranged his natural environment to suit his own needs and purposes. Today there are few areas in the world where man is still completely dominated by his environment. For the most part, he is at least equal to it and manipulates small sections of it at will to make a more comfortable world. In the centuries ahead it is to be expected that he will eventually gain complete control over his total environment.

Architecture, then, is not the art or science of building, especially for the purposes of civil life. **Architecture is the creation of a total environment within which can be accomplished the aspirations of man.**

To build wisely as well as efficiently, we must learn more of man himself, of life itself. We must study man, individually and collectively in all his variations, in order to know how to build for him. The concrete aspects of the physical sciences are being studied incessantly, but the indeterminate, often abstract, aspects of the behavioral sciences are little known insofar as they affect the shape and use of our architecture.

A century of industrial revolution has so profoundly changed architecture it will never be the same again. It is suggested that a century of social evolution (and we are somewhere in the first half of it now) will have even more far-reaching effects on architecture.

The architect must study man and his society so that while constructing the vast containers for all people and all activities he can be sensitive to their needs.

The role of architect will then be to give that leadership which will create a vital quality that we can only describe as a 'Dynamics of Atmosphere.' A sense of destiny, a feeling of people on the move, a knowledge we are realizing the goals that will form a better society.

Since architecture deals with man, and since man cannot be dealt with as a single building frozen in space when conceived on a time continuum — let us first consider architecture in terms of one of its elements . . . **creative planning** projected over a long range of years.

Not long range in the terms of 100 years from now — this is too long a time to give a sense of personal and urgent connection to the distant future. Moreover, some even claim we'll all be horses by then anyway.

(*Continued next page*)

TIPS Jim Liberty, left, general chairman for the Conference, passed along some ideas and experiences to Emerson Scholer, who will head up planning for the Ninth Conference next Fall in Tucson.

Let's conceive long-range planning as realistic, hard-headed and based on a time schedule that is unfeeling and relentless . . . a time schedule that goes no further than our own children, and the legacy we bequeath them.

Let's define this long-range creative program as a 3-phased operation of concentric rings that we shall call the Master Plan:

PHASE I – Immediate and desperate needs of man.
These can be spelled out, documented, planned and constructed within a 2 to 5-year period.
Financing is the only hurdle to completion.

PHASE II – Known, foreseeable needs of man.
These can be analyzed, projected and planned for – based on impeccable interpretation of facts and data available to those who search earnestly for solutions covering a 15-year period.
Profound investigation, perseverence and conviction of analysis is the only hurdle to completion.

PHASE III – Unknown, but probable needs of man.
A 40-year projection (covering overlapping generations) based on a rationale of vigorous imagination, shrewd appraisal and a conviction of the true value of well-defined objectives.
Understanding, wisdom and a willingness to stand up under criticism are the only hurdles to completion.

Isn't it odd? Financing is required only for Phase I. Only work and inspiration are needed for Phases II and III.

On this basis, Phase II hits 1975 and we have accumulated significant data that can be used for projections to this date. Phase III lands squarely on the threshold of the 21st century – 1999.

My youngest daughter in 1999 will be exactly as old then as I am here today. How old will your children be in 1999? The 21st century is theirs to live in and to shape and form. Our children are the link between us and the future. This is not a remote, fanciful, never-never land. This is real; this is personal. It is important that we stretch our thinking and our planning. Our shoulders must be the platform for our children as they enter a new century.

Some will say we have come a long way in our planning concepts in a very short time . . . and we have; that we have accomplished mountainous tasks . . . and we have; that people are concerned about needs of the future . . . and they are.

But not enough.

We are not concerned as much as we should be. We are not accomplishing all we should. We have come a long way – but not far enough.

The complexities of our times are increasing logarithmically; architecture and professional practice are changing rapidly; and acceleration can be felt as a changing society makes its demands for a new world environment. Magnitude of change is greater, rate of change swifter. Man must now adapt to new conditions in years where before he had centuries.

Expedient manipulation to meet pressing needs without planning for long range probabilities is commonplace. Collectively, we are a nation of Phase I thinkers. Phase II thinking stands out all too seldom, and Phase III thinking is reserved for prophets and the Sunday supplements. Status-quo is sound, solid and comfortable; complacency is met at every turn.

We must not be satisfied with just planning – we must strive to accomplish GREAT PLANNING.

Planning is never great that does not recognize the dynamics of change. Change is inevitable – change is desirable, and our plans must anticipate this.

Planning is never great that considers only segments of a total picture. Architecture will be improved only to the extent that it is interwoven with and made a part of the network of our whole society. With a burgeoning population and an expanding economy we find deserving but conflicting interests all competing for money, talent and space. The needs of man will be better understood and satisfied if they are seen in their important perspectives, properly fitted into the whole picture.

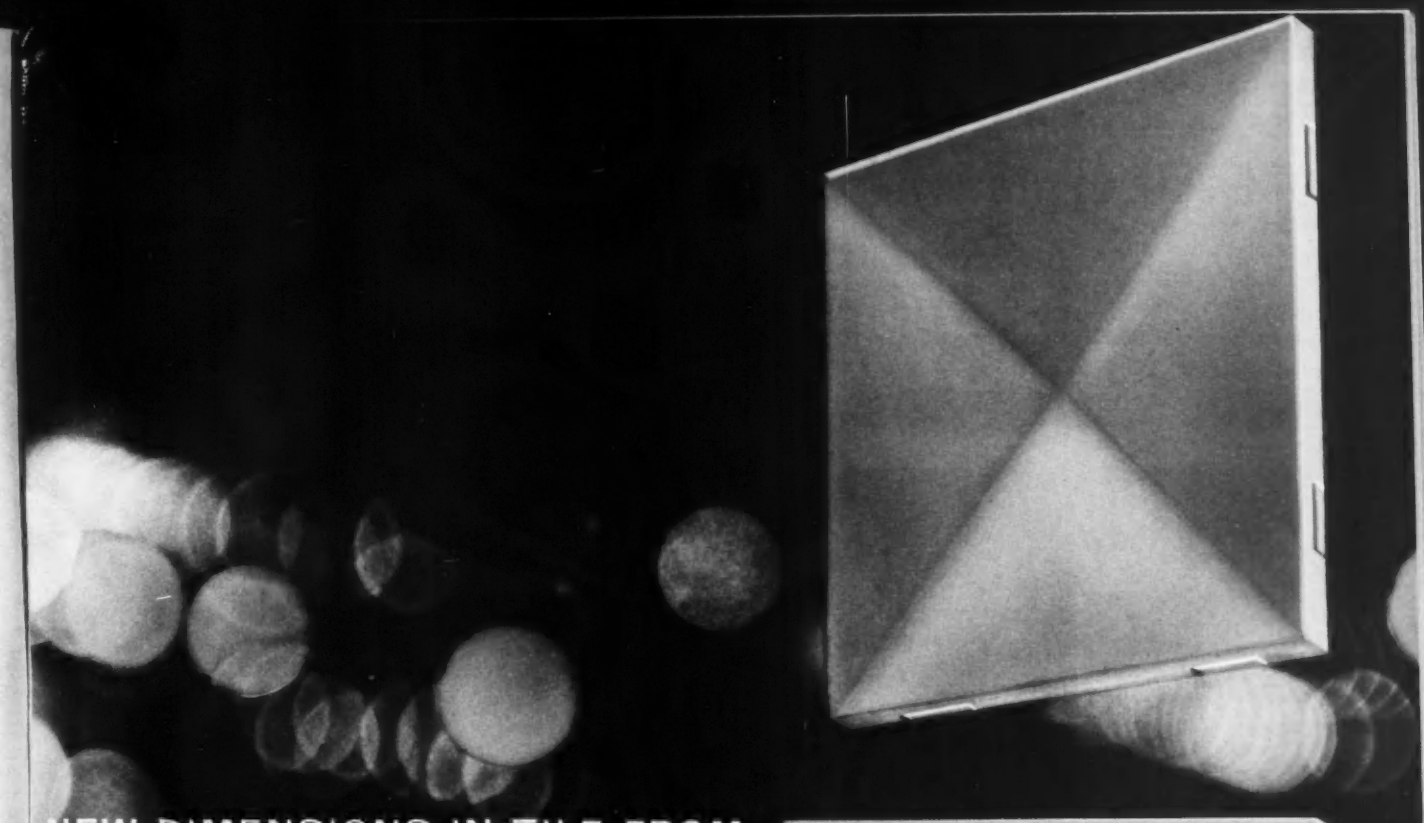
Planning is never great until it recognizes that efficiency and cost factors are but two of the many elements in the three translucent dimensions of architecture. If art in all its forms is not allowed to shine through in its infinite variations – giving form and color and texture and motion and music and purpose – then architecture is hollow and meaningless, and does not express the full depth of our culture.

Planning is never great that considers only the statistics of people and product. It must be motivated by well-defined objectives and values that recognize the dignity of the individual, and the aspirations of man. •

JIM HUNTER IS NOMINATED FOR AIA VICE-PRESIDENT

James M. Hunter, FAIA, of Boulder, Colo., has been nominated by every chapter in the Western Mountain Region for the office of Second Vice President of The American Institute of Architects. The election is to be held at San Francisco in April, 1960, during the national convention of the AIA. It is understood that a number of other chapters have already joined those of the Mountain Region in the nomination.

Jim Hunter, who has received many awards for his work, was made a Fellow for design in 1957. He has served as chairman of the Institute's Committee on Education, and is now chairman of its Committee on the Profession.



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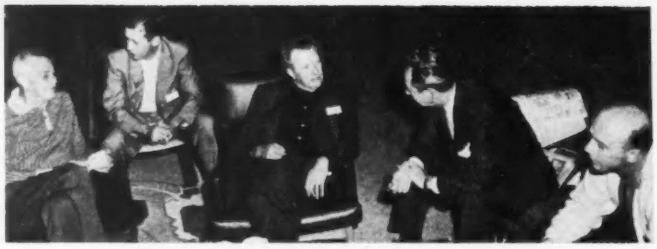
WELCOME ABOARD (From left) Mrs. Kemper Goodwin, Mrs. Sidney Little, Mrs. Fred Jobusch and Mrs. Jimmie Nunn are welcomed to a tour bus by Albuquerque hostess Mrs. Walter A. Gattman.

CO-CHAIRMEN Mrs. W. Miles Britelle, Sr., (left) and Mrs. Arthur Dekker, headed up the Women's Activities Committee for the Conference. Carl LeMar John, Tucson, enjoys their hospitality.



BETWEEN SESSIONS (Left to irght) Sid Little, Dave Swanson, Gordon Luepke, (Southern Arizona Chapter), Jim Hunter (Colorado), and Jim Elmore (Central Arizona), sit one out.

POOLSIDE Enjoying the sun at the beautiful Western Skies Hotel, scene of the Eighth Western Mountain Regional Conference, are (from left) Sidney Little, Mrs. Little (Tucson); Mrs. Paul W. Rader (Denver); Richard Drover (Phoenix); Mrs. Carl Kloverstrom (Denver); Mrs. Lew Place (Tucson); David Sholder (Phoenix); Mrs. Sholder; Mrs. William G. Heinzman (Boulder); Mrs. Drover; Mrs. Jim Hunter (Boulder—back to camera); and Mrs. Jimmie Nunn (Phoenix). Weather, setting, program, and hospitality combined to make a highly successful conference.

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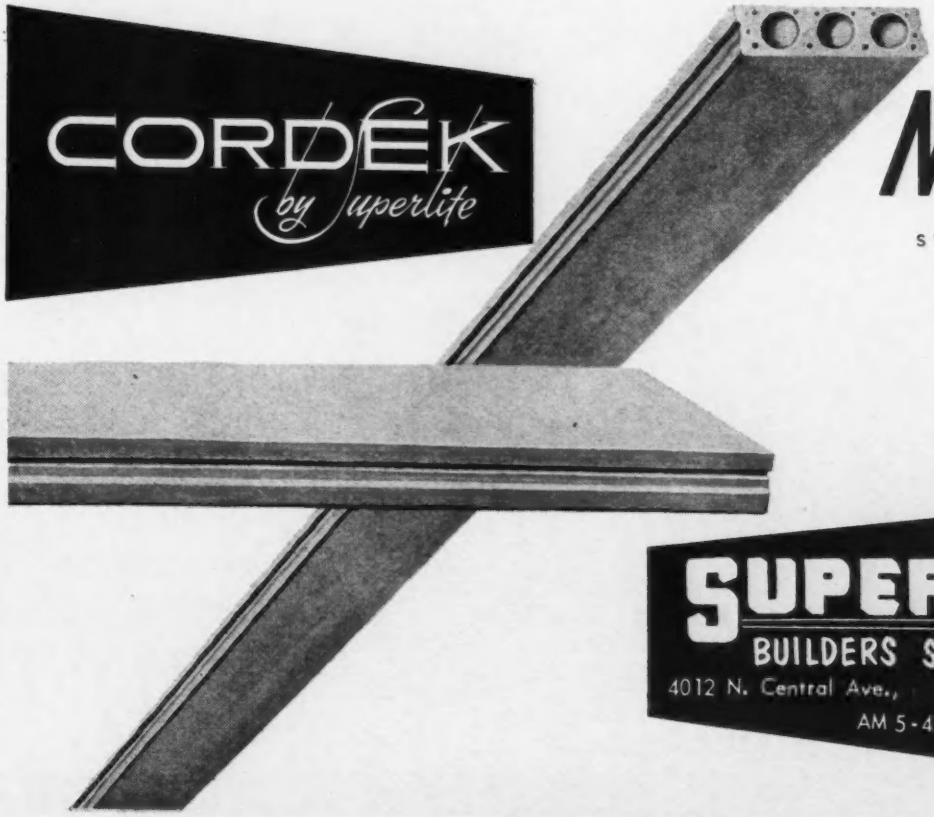

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Conference Keynote

Science In Architecture

By

Clayton S. White, M.D.

Director of Research

Lovelace Foundation for Medical Education and Research

Albuquerque, New Mexico

One problem which has become progressively more serious with the passage of time and which concerns almost all practicing professional groups, entails the need for a greater and more efficient information flow between the sciences basic to a profession and those who practically utilize the products of research. The roots of this very real difficulty spring from the fact that modern society is technically advancing at an ever accelerating pace on the research front, and is producing information faster than it can be digested, integrated, simplified and a) brought into a form suitable for assimilation by the rank and file of the profession, b) woven into the educational curricula and c) incorporated into laws and codes covering matters of interest to society as a whole such as public health, sanitation regulations, safety practices, fire prevention, building regulations and other practices laid out for the common good. x x x (*See Perspective*, p. 7).

The problem concerns complacency, laziness, social consciousness and the inertia resisting "moving" a whole profession anchored in the past to an enlightened future posture.

Obviously a formal and organized attack on the problem is indicated, and I submit that there is no better place to start than formulating a plan to stimulate information flow and to increase the utilization of available information than under the aegis of the major professional societies. Such an effort will cost money and it seems reasonable to believe that a professional society not only could, but should, spearhead such activities which certainly would benefit the entire membership. For certain, there must evolve – especially in those professions drawing upon technical sciences as their stock and trade – a program more revolutionary than evolutionary, to speed the practical employment of available data. x x x

"We should have told 'em to use
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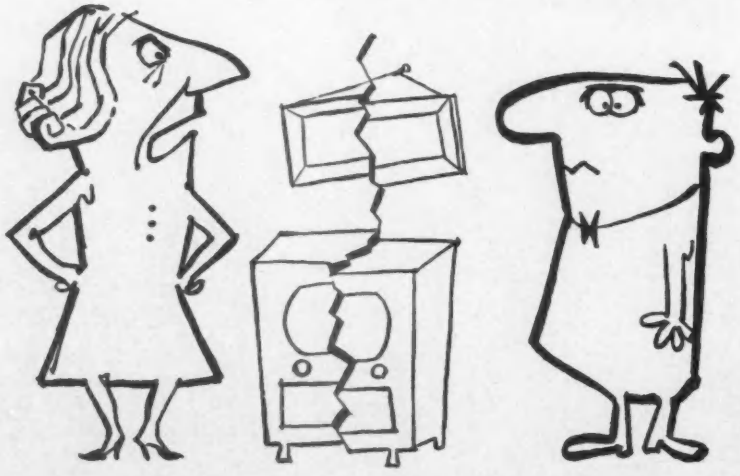
lath and plaster!"



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Another important point concerns the fact that fundamental research usually creates more problems than it answers and provisions need be made to allow creative and imaginative individuals the opportunities to explore whatever areas stimulate and puzzle them. This is the way progress is made. I feel such a course is particularly significant when research between the disciplines is being carried out by a team of qualified scientists, for a multi-pronged approach to problems will become more significant in the future simply because the scientific world will become ever more complex than it is today. x x x

There is the possibility that the great discoveries of our times can be either good or bad or both, depending how they are fed into the mores of our society. This touches your profession and mine, because more frequently than not, "the feeding process" concerns the professional pipeline. Consider for the moment the automobile, which most people will agree was and is generally a "good" thing. Yet, this "good" thing is involved in 30 to 40 thousand fatalities each year in America alone. As a society we have not learned yet how to "live" with the automobile very well. Consequently, it behooves us all now and then to curb our enthusiasm long enough to realize that many of our marvelous advances and discoveries cost us a price in dollars, inconvenience, financial strain, and even human lives.

Such thinking brings me to a more detailed consideration of one selected area in which the architectural and bio-medical professions have common problems and interests of long standing and which in recent years has taken on a new meaning; namely, design and construction for human occupancy.

Traditionally, the successful architect has been considered a technically sound designer, an artist and a good businessman whose task is to plan and supervise the construction of a home, an office building, an industrial plant, a museum, a hospital, a research center or any other structure which has at its core *functional efficiency*. This last statement is quite a mouthful because quite frequently the customer behaves as though he expects the architect to read his vacant mind. Indeed more often than not – and understandably – the customer actually does not know in detail what he really wants, and it falls upon the architect to muster all his sound knowledge – along with his clairvoyant powers – and help his client decide what is actually desired. Usually however, the client is quite sensitive to cost, and the enlightened designer will work hard to grasp the functional purpose of the desired structure, *for only then can he really produce the most for the construction dollar* – and he will not go far wrong doing this!

Beyond the client and cost, considerations of functional efficiency will yield a feeling for the technical

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structure and required equipment. However, the architect works under other constraints which on the one hand encompass geology, terrain, climate and area and on the other building codes, beauty, health and safety, the last two particularly if the building is to be occupied. (See Figure 1.) Living and working

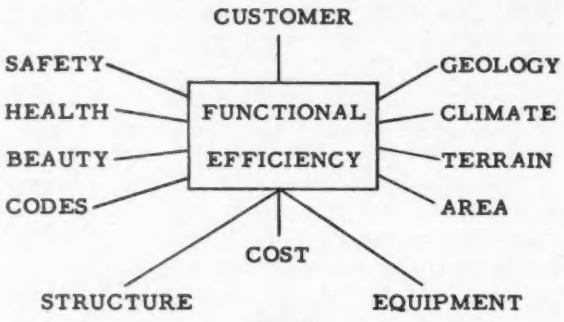

Figure 1

space both require that close attention be given to the internal environment – temperature, light, humidity, ventilation, noise levels, vibration and in some cases consideration of special hazards which spring from the nature of the operations to be housed – sand blasting, radiation therapy, manufacture of toxic materials and production of explosives, for example. Also, and not infrequently, what is done inside a given structure may represent an immediate hazard to close-in areas. Too, gaseous and particulate by-products may be undesirable and frankly dangerous to people, animals, vegetation and water supplies over great distances from the plant site.

Now these last few remarks point out that the architect has paid attention to problems with biologic facets for a long time, but I would like to gently suggest that herein lies quite a large area in which many data exist, but which are little known and little used by the average designer. I have inspected many industrial plants with inadequate ventilation, poor lighting, high noise levels, high temperatures, toxic fumes and dust, and poor safety engineering and know that this is so. At the same time I hasten to add that always the designer is not to blame; rather it is often the constraint placed upon the project by the client and available funds. Even so, I will be so bold as to ask what mechanism is there which routinely updates the biomedical and human factor inputs into architectural practice?

I am aware that building codes are generally useful and often work to the common good. I should think that earthquake codes applied to appropriate areas of the world have already saved millions of dollars in property damage and many human lives. In view of the known typhoon and hurricane areas and the known cost of property damage from wind-

storms and floods, why are there not building codes to insure more structures which will better resist the dynamic pressure variations associated with violent storms? Is it not true that enough is known to insure technical feasibility? If so, is the problem then one of economics or is it simply a matter of disinterest, social inertia or an attitude that the wind never really blows here anyway?

Nuclear Explosives

Whatever are the answers to these questions, it is a fact that architects have designed structures from pole to pole and east to west which now stand and function well. However, the world today is not the same as it was before 1945, the year the first atom explosion seared the New Mexico desert with the heat of many suns, deposited radioactive material which still resides in the local plant and animal life, sent a seismic tremor through the earth's substance and rent the atmosphere with a shock and pressure wave never before witnessed by man.

Atomic and hydrogen bombs are here. They will not go away. They cannot be denied. Means exist to transport and explode them anywhere in the world. An ostrich attitude cannot change these facts.

(Here Dr. White recommended that architects send to the U. S. Government Printing Office for "A Summary Analysis of the Hearings June 22-26, 1959 before the subcommittee on Radiation of the Joint Committee on Atomic Energy," a discussion of the biological and environmental effects of nuclear war, as brought out in Congressional hearings. Dr. White showed the Conference many illustrations and charts dealing with structures and animals subjected to atomic blasts.) He concluded:

Great dividends could accrue from measures to:

1. Enhance survival of medical and paramedical personnel, their equipment and facilities, for care of the maimed and injured requires living, not dead physicians, nurses and technicians, and

2. reduce casualties sharply, including sensibly conceived protective construction systematically extended from the rural into the suburban and urban areas. There can be no doubt that such action could and would markedly reduce casualties. In fact such measures might well be a potent factor in preventing a nuclear exchange. This is so, simply because *with survival there could be retaliation, without survival there would be none.*

Now, ladies and gentlemen, who is going to design and construct the protective structures which I feel are the key to national survival in a nuclear war and the only key to medical effectiveness? Members of my profession? No. It is going to be members of your profession and the sooner you start getting prepared for the job, the better this nation will be. •

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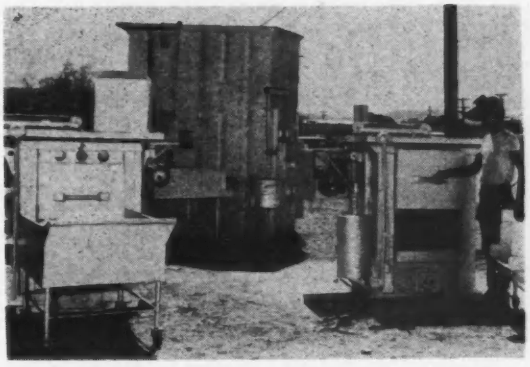

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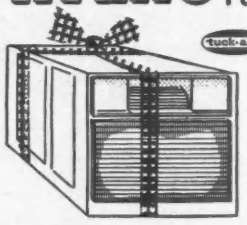

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Builders' Progress

By

C. H. Topping

Senior Architectural and Civil Consultant, Design Division, E. I. du Pont de Nemours & Co.

True research, to be honest about it, must produce incontrovertible facts, proven facts, facts that can be reproduced by anyone, devoid of subjective opinion. How many excursions into unchartered architectural territory can be classed as research?

If architecture is all art, all a matter of taste, appearance and decoration, and does not concern itself with improved functions over what we now know, research in architecture is not of much material value – except to the architect. But if, on the other hand, the functional performance of architectural structures is to be improved, we must progress beyond simply trying to keep pace with man's gadgets and knowledge and coronary statistics. In the theory of Richard Neutra, architecture should provide man with corrective and therapeutic environment, to ease his physical and spiritual burdens and prolong his life, perhaps relieve him of some of his cares, and give him mental pleasure. And it should do this with less of man's effort required to pay the bill. If all this is to be accomplished, then architecture really needs to get down to work and do some scientific research. x x x

Improvement can be made in many fields, not all of them architectural, not all of interest to most architects – but they should be, for they affect both the quality of your product and its cost to the consumer. You as architects are the self-appointed apex of the whole building pyramid and, as such, should be calling the shots on the objectives of research. More knowledge is needed in land use and planning, in financing, legislation, administration of codes, merchandising, building materials, fire safety, engineering, construction methods, and design for function, for economy, for maintenance and for better living.

Let's consider two of these research areas.

Let's talk first about codes. Opinions differ widely on this subject. It is my experience that codes are just about as good as present knowledge can make them. But that isn't very good. General McGrew, when Commissioner of the New York State Code Commission, told me that their biggest problem in

writing the New York State Code was to find the knowledge, the facts upon which to base their work. Code writers and administrators do their best, but that best is in default of scientific data. Of the research areas I have mentioned, only design affects architects more than codes, but what are architects doing about codes? Why are not architects hip-deep in writing codes, digging out knowledge for codes, deciding what codes should be, administering and interpreting codes? The A.I.A. should, it seems to me, undertake the responsibility of obtaining the knowledge necessary to put codes on a rational basis.

In another of the research areas I mentioned, we all realize that we are seriously in need of new building materials. Materials which do not now exist, in forms which do not now exist, performing perhaps unheard-of functions for which they are especially adapted because of their peculiar properties.

I do not mean that we have reached the end of what we can do with steel and wood, brick, plaster, and concrete, but we are reaching a stage of diminishing returns. About all we can do is change forms. The open field is in synthetics.

It is logical that if entirely new materials are to come from anywhere, they must come largely from the chemical industry. Where else could they come from? It is unlikely that the forests will grow the answer to our problem, nor the earth produce, unaided, new materials.

The chemical industry has already made significant contributions to certain building needs. It broadly recognizes other needs and earnestly desires to advance its contributions to building. The chemical industry possesses research talents and funds capable of fulfilling many new requirement of the building industry, but it is up to the latter to grasp the opportunity.

The chemical industry finds itself handicapped in dealing with problems of building. All the complexities of that amorphous conglomeration of activities called, perhaps optimistically, the "building industry" present some obstacles with which the chemical engineer is not prepared to cope, at least all by himself. To begin with, the chemical engineer is trained, of necessity, in a rather precise technology. He finds building men unintelligibly vague, and he cannot find out what the builder wants. In effect, the chemist says to the builder: "Tell me exactly what you want and how much you can afford to pay for it, and I can, in time, produce it for you." What the chemist needs is precise definition of product. Without that, he is drifting in a trackless sea. x x x

The architect must be able to describe his requirements. The contractor must realize that his requirements extend further than that it doesn't rain tomorrow morning. The building team must stand ready to describe what it can do with new materials, and

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what it wants of them. The researcher must translate all this into terms which the chemist can understand and use.

Inventors must take advantage of the characteristics of new materials and find ways to use them which will give us better houses and offices, better schools and more efficient industrial plants.

You may well ask, where is this broad bridge we are going to cross. The truth is that it doesn't yet exist, but the plans are laid, some of the work has started. Many people are already deeply involved. You should be among them.

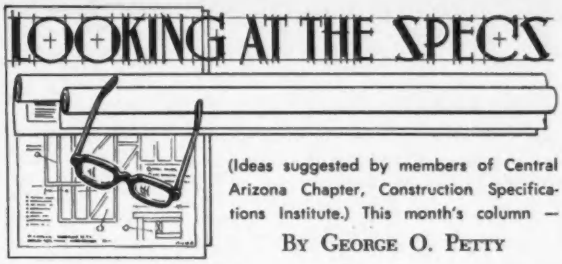
One of the most effective groups working on this bridge is the Building Research Institute, an agency of the National Academy of Sciences. Although its headquarters is in Washington, it is not a government group. Membership is open to architects, engineers, contractors, and material manufacturers who are devoting their efforts to fostering research and developing a building science. The Institute does no research itself, but it correlates information on research and on building problems. It collects and disseminates known knowledge and defines the areas where research is required. It has made tremendous strides in helping its members with their problems. It has brought together 1,000 top executive and technical personnel of 95 architectural and engineering firms, 16 builders, 8 research organizations, 19 chemical companies, 166 building material manufacturers, and 48 other organizations, as well as 117 individual members in education and government.

We don't do many things unless we have to do them. Railroads did not improve their rolling stock until other modes of travel were developed. Then they had to improve it. We achieved greater production feats in the war because we had to. Now we must do great things in developing a building science.

We have to! •

MEDAL WINNER Architects at Albuquerque met Maria Martinez, world-famed pottery maker, and her son (left), Popovi Da, Governor of San Ildefonso Pueblo. With them are Fred Pace (right), president of U of A Student AIA Chapter, and Gerald I. Cain, AIA, of Tucson. Maria's AIA Gold Medal for craftsmanship, and examples of pottery are shown on cover.

LOOKING AT THE SPECS



(Ideas suggested by members of Central Arizona Chapter, Construction Specifications Institute.) This month's column —

By George O. Petty

It has become apparent that often the persons who write ceramic tile specifications do not relay the desired information to the bidder. It has been a custom in the past to rewrite or recopy an old set of specifications, which called for the basic 4¼x4¼ tiles on the wainscots and natural clay, block random, ceramic for the floors. Basically, this may not have been what was intended or desired.

Manufacturers are constantly on the alert for new ideas and usages. This sometimes requires new shapes and sizes. The most recent new product, added to the line of shapes, is the new styled, rolled edge drainboard on vanity trimmer. Whether it be called by one trade name or another, it was styled through popular demand of the home owner. This same demand has caused numerous changes in the ceramic tile industry.

Most recently, the problem of who was supposed to do the lathing and scratch coat has been of great importance to both the owner and the bidder. Not knowing for sure whose jurisdiction or whose responsibility it was to apply these items, it was almost always inserted in the ceramic tile section of the specifications. As far back as 1917, these items were awarded, via jurisdictional dispute, to the respective trade. Local habits have gotten these items back into the tile section. On August 8, 1959, through joint agreement between the two respective unions and contractors' associations, these items in question have been placed in their proper responsibility. The lathing and plaster section of the specifications should cover, in addition to the other work required, a paragraph regarding the type of metal lath and the scratch coat backing behind all ceramic tile base and/or wainscots.

New methods of installation have been perfected in the past five years. The most recent, the inorganic or thin-bed cement method, has revolutionized the ceramic tile industry. By using these new cementuous products, the trade is now able to install, over suitable backing materials, dry tiles (unsoaked) directly to a neat coat of cement and have found through tests to have as strong, if not stronger, bonding capacity. This method is still recommended over a backing of cement plaster.

Analyze your specification section that pertains to ceramic tiles. Does it specifically state what you have in mind? Does it state what sizes, shapes and/or type patterns are desired? If not, call upon any one of us to assist you in making it clear to the bidders.

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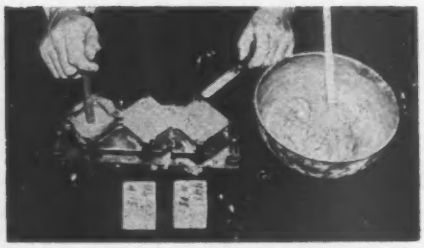

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This new equipment is only part of that to be acquired as necessary so we may do your work more efficiently and implement our policy of better service at no increase in cost. Previously, mortar and cement tests have been sent to the coast, with resultant delays.

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Report to the Conference

By
EDMUND R. PURVES, FAIA
Executive Director,
The American Institute of Architects

The theme of your Conference "Science in Architecture," is one which has, for me at least, a considerable challenge of an uncommon nature, for I know that I am not particularly well equipped to get technical. Strangely enough, my relation with science in architecture has far more to do with the law than with technological advance or scientific experimentation. Some years ago I was asked to accept an appointment as a member of the Atomic Energy Commission's Advisory Board on Contract Appeals. Naturally, I accepted for I am possessed of an insatiable curiosity, tempered with a mild inclination to serve my country, an inclination dulled by service in two world wars and five years in combat overseas.

I discovered that I was a member of a three man panel about to start a hearing to be conducted according to court procedure, and guided by Rules of Evidence. The agenda consisted of an opening statement by the attorney for the complainant, opening statement by the Government Counsel, direct examination, cross examination, re-direct examination, re-cross examination, questions by panel members and summing up.

However, I soon learned that in every hearing there was a point on which someone had to be on hand who could read blueprints and understand specifications as invariably the issues, especially those concerning questions of fact, revolved around interpretations of architectural or engineering documents. Now I began to see why I had been appointed. My legal colleagues would suddenly drop their questioning of witness and of attorneys and, enunciating legal profundities, turn to me with a sort of supplicating look and ask me what it was all about. My triumphs were short lived as I had to go back to them after the hearing was over and ask what they had been talking about for the three or four hours before I was asked to pitch.

My experiences on the Advisory Board taught me quite a number of things about our Government, our people, contractors, architects and engineers, some of which I had only vaguely suspected or had discounted as hearsay. First, I learned from looking from the inside out just what a contractor, be he general or professional, is up against when he takes on the Government as his client. The picture, though not dire, is one that calls for very careful study. Un-

happily the examinations are too often cursory, especially it seems those conducted by general contractors. Contractors eventually end up dealing with or against a Contracting Officer. First of all, it must be remembered that the Government is not an individual, it is not a corporation; it is a great amorphous body with literally hundreds of thousands of facets, each being an individual. It is like a swarm of bees. Some have likened dealing with it to fighting a room full of feathers.

Some Contracting Officers appear to have monumental inferiority complexes, and to nurse grudges against the outside world and especially against their ex fellow-professionals. He at times appears to exist only for the exquisite pleasure he gets out of torturing architects, engineers and contractors. However, if you were to take his place, I suspect you would find that after several years of contending in the welter of that fearful organization, the United States Government, with its unceasing internal jockeying, its own kind of inner politics, its deceptive protective guardianship of its inmates, that your outlook on life and regard for your fellowman would undergo a change, especially as you would find yourself underpaid and enjoying scant prospect of getting ahead on your own.

The Government *per se* is a cruel client. It has to be. It is not interested in your welfare. It is charged with safeguarding the interests of the taxpayer, whose money you are spending. It accepts that charge in deadly earnestness and applies it impersonally.

I was struck by another thing which pleased me immensely and that was the tremendous respect in which the architectural profession is held by the Atomic Energy Commission, by contractors, by lawyers, in fact, and I have found evidence of this respect on the part of the Government in general.

Time and time again in those hearings I have heard the attorneys say, when the architects' documents were put on the table, "This is the way the architect said it is to be done" and that would end the argument. Such statements were never refuted, possibly due to the fact that there happened to be an architect, myself, sitting on the Board.

Now all of this has very little relevance to the subject of this conference, which is "Science in Architecture," and I presume science of the future. It is trite to say that science is moving forward at a rate which has all of us panting. But it is so and the rate is horrible in more than one sense. The instruments which mankind now possesses for its own destruction are terrifying. We are also impressed by some of the statistical information of the power of the latest missiles. No doubt you have come across this in scientific magazines.

Now there is an interesting aspect to this tremendous progress and expansion, and one that is

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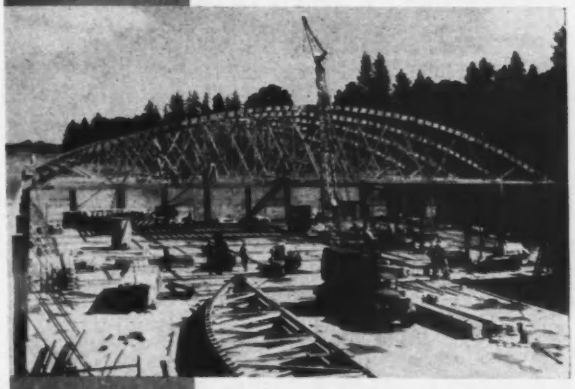

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possibly not destructive, but fascinating and stimulating; namely, that if the architectural profession is to measure up and assume its appropriate role it is obvious that it will have to expand itself and we will have to drop whatever vestiges remain of our protective insularity. We shall have to recognize the architectural profession for what it is if it is to hold its own as the guiding element of the design professionals in the construction industry; and its organization, The American Institute of Architects, will have to expand along with it.

There will be proposals made along that line, probably at the coming Convention. It will be well to take them soberly and not discount or review them in light of our own selfish interests, but rather look at them with the realization that if your organization and your profession are to survive and occupy their appropriate roles, it will require imagination, energy, effort and broad understanding.

Registration Boards will have to realize that the safety and welfare of the people on which our licensing laws are founded call for a great deal more than a knowledge of the few stresses and strains, than ability to understand the figuring of radiation and matters like that, or an understanding of the local building laws. What is really called for is an understanding of your role in life, of your capacity to plan and to lead. It is hoped that the licensing boards will assist The American Institute of Architects in advancing the architectural profession and not become a retardent factor to the greatest profession in the country.

Now I do not want to leave you on even a slightly discordant note, because the NCARB is only one of the organizations which has to play its part. The American Institute of Architects is the primary organization and upon it falls the major responsibilities. So before we criticize others too severely, we had better look to our own organization, examine it, see what it is doing, and be sure that we, ourselves, have established ourselves on a broad enough plane to entable us to influence others in the interest of cooperation and progress. •

REGIONAL OFFICIALS Lined up at Albuquerque are, (from left): Regional AIA Director Frederic Porter, and chapter presidents Dean L. Gustavson (Utah), Howard H. Brandis (Reno), Carl Kloverstrom (Colorado), John Brenner (Central Ariz.), W. Miles Brittelle (New Mexico), Edward H. Nelson (Southern Ariz.), and Clinton A. Hitchcock (Wyo.)

CRITÍQUE

EDITOR, ARIZONA ARCHITECT:

The Editor's Perspective in your October issue invited controversy. I will start with agreeing with a part of your article and then strongly disagreeing with a part.

It is agreed that the professors in a university should not be muzzled. We should have the privilege of free speech everywhere but above all, it should not be a privilege, it should be a right in our universities.

You ask where can a state government look for experts, then you name the big mining companies and on the faculties of the universities. Have you forgotten the consultants in that field? Would you agree to that kind of statement if the question was one of architecture? That all of the experts are in the employ of large construction companies or with the State Universities? You know that you would not, because the great architects are not employed by the large construction companies nor are they in the employ of State Universities. The same applies to the great geologists and mining engineers that might successfully face the experts of the copper companies with regard to mine evaluation. I can speak of this because I am neither a mining geologist nor a mining engineer; my specialty is water.

This brings up the question of the university professor being allowed to do outside work using the facilities of the university. This is good from the standpoint that the professor secures practical experience. It is bad from the standpoint that he is working from a secure position with his bread and butter paid for and often takes work for a lower fee than those of us that work full time in the consulting profession. I would like to ask if the architects have formulated any policy regarding this in the architectural field.

SAMUEL F. TURNER

(Editor's Note: Reader Turner's point is well taken. There are competent consulting engineers and geologists who could testify in mine valuation cases. But a state agency is faced on one side by a suit brought by a mining company, and on the other by a legislature tightly grasping the purse strings. Under the circumstances, the state agency reasons that if there are experts already on the state payroll, in the universities, they ought to be made available to assist the state in court. Its lawyers may also feel that a university professor might better impress a jury with his assumed knowledge and impartiality.

Regarding the last point Mr. Turner makes, we do not know of any AIA policy on the matter of university professors also privately practicing architecture.)

NEW ARIZONA REGISTRANTS

The State Board of Technical Registration has announced that on October 1, 1959, the following architects became registered and certified in the State of Arizona:

Richard M. Arnold....1641 E. Rovey Lane, Phoenix
Charles O. Biggs.....2046 N. 69th Pl., Scottsdale
Paul E. Buchli..928 E. Stella Lane, Apt. 22, Phoenix
Muton O. Bynum.....605 E. Yandell Drive, El Paso
Wm. H. Cartmell.....309 Yucca Drive, Scottsdale
Wm. B. Dinsmoor, Jr...605 E. Yandell Drive, El Paso
Robert N. Eddy.....2901 H. St., Bakersfield, Calif.
Bennie M. Gonzales....4038 W. Van Buren, Phoenix
Wyatt C. Hedrick.....P.O. Box 765, Fort Worth
Walter E. Kuykendall, Jr.....405 Mills Bldg., El Paso
Silvio P. Marraccini...536 Mission St., San Francisco
Stefan S. Ryciak.....17 E. Indianola Ave., Phoenix
Selmer A. Solheim....1335 H. St., Lincoln, Nebraska
Ben H. Southland..135 S. Doheny Dr., Beverly Hills
Robert L. Starkovich.....114 E. Mariposa, Phoenix
Lester D. C. Tichy .....200 E. 42nd St., New York
Frank B. Wallace .....2638 N. 14th St., Phoenix
James A. Wares .....111 N. State St., Chicago

— AIA —

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SOUTHERN ARIZONA CHAPTER NEWS

• The October meeting, held late due to the Regional Conference in Albuquerque, heard reports on the affair from those who attended.

• Gerald Thayer, U of A student AIA chapter official who won the Chapter's $500 award last June, plus another of like amount, showed some excellent color slides that he took during his studies at Fontainebleau, France, a trip made possible by the awards.

• The November meeting was held jointly with representatives of Arizona Building Contractors.

• The Chapter will sponsor a booth in the display tent at the Tucson Home Builders Association's Parade of Homes, January 30 to February 14.

U of A To Give Landscaping Course

Beginning December 7, 1959, the University of Arizona is presenting a three day course designed to encourage more active participation by all interested persons in community planning.

In co-operation with the Arizona Association of Nurserymen, the Short Course will elaborate on three themes: "Landscape Design in Community Planning"; "Use of Landscape Plant Materials"; and "The Garden and Your Nurseryman." Well-qualified guest speakers and University specialists will provide appropriate lecturers and panelists and exhibits during this three-day event.

Fee for the Short Course is $3. Registration will be held at 8:30 a.m. Monday, December 7, in the lobby of the Student Union Building, The Univeristy of Arizona campus, Tucson.

For further information contact Lee Burkhart, Programming Chairman, Landscape Design and Nursery Short Course, The University of Arizona, Tucson, Arizona.

NOW IT'S OFFICIAL — The Arizona Society of Architects, consisting of the state's two chapters, is now a formal member of the American Institute of Architects. (L to R) AIA Director Bunk Porter at Albuquerque presented charter to the Society's Council President, John Brenner, and Vice President Edward Nelson. The Council held its second annual meeting in Casa Grande October 31.

CENTRAL ARIZONA CHAPTER NEWS

• Fred Langhorst, visiting lecturer at ASU, treated the members to a slide lecture of contemporary architecture at the regular meeting of the chapter on November 5th. The meeting was an exceptionally well-attended, appreciated, and friendly one.

• At the meeting, President Brenner reminded the membership that the annual meeting is due in December. As the last meeting of the year, all committee reports will be due, the secretary's report, the treasurer's statement, and, of course, election of officers will be held.

• The Knotty Pine Restaurant, 7th Avenue and Camelback Rd., is now the regular meeting place for the Chapter. Although a little crowded now, the management expects to move to new quarters sometime early next year. Dinner reservations will be taken **each month** at the Chapter office, ALpine 2-4318. More efficient service is possible with this arrangement.

• Warm welcome to the following new corporate members of the Chapter: John R. Kahl, 460 W. 4th St., Scottsdale; Albion Roy Walker, 1329 Gibson Lane, Phoenix; and congratulations to former associates Ralph Morton and Joe Hughes who are now corporate members.

University Book Lending Rules

The School of Architecture has announced that the library facilities of Arizona State University are available to any citizen of the state. The prospective user must identify himself to the satisfaction of the librarian and may be asked to post a deposit for books withdrawn from the library,

To assist the profession, Milton Lowenstein of the faculty of the School of Architecture has drawn up an instruction sheet which includes the titles and Dewey Glassification numbers of categories of books most likely to be of service to architects. The list is not exhaustive but is intended to be suggestive of the areas within which a search may be started for many of the subjects in architecture.

The instruction sheet and list is available for consultation at the Central Arizona Chapter office, 1423 N. 3rd Ave., Phoenix. Inquiries may be made by calling the office at ALpine 2-4318, or by contacting the School of Architecture.

NOTICE TO AIA MEMBERS

The January issue of *Arizona Architect* will carry a complete roster of the paid-up, active members of both Arizona chapters of the AIA.

If you have any doubt that your Chapter Secretary has your correct address – as you want it shown – be sure he is notified promptly.

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IN THE BOOK WORLD

YOUR VOICE AND YOUR SPEECH by Beatrice Desfosses. $4.95. Hill and Wang.

EXECUTIVE PUBLIC SPEAKING TECHNIQUES by Harry Simmons. $5.00. Chilton.

How often has an architect secured a client merely because he was a better speaker than others seeking the same commission? If the truth were known, it is probable that a great many instances could be cited to prove the decisive value of a good voice and manner of using it. Industry recognizes the public relations value of ably-speaking executives, and their value in developing sales for "the company." In Mr. Simmons' book, he stresses these values and explains many of the details of modern speaking techniques. While a large part of the hints offered are directed at the "corporation man," there are ideas here that any professional man would find useful.

While these books overlap in some degree, Miss Desfosses' book offers considerable information on the voice mechanism and a plan for self-training that should lead anyone to a much better and more persuasive use of his vocal powers. There are chapters on conversation, interviews, discussion, listening intelligently, overcoming stage fright, thinking on your feet, and public speaking, among others. . . .P.S.

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THE COMPLETE BOOK OF ARTISTS' TECHNIQUES by Kurt Herberts. This is the book that tells in lucid detail – and illustrates with exquisite reproductions – how the artist translates his inspiration into a work of art and – sometimes – into a masterpiece. It is a fundamental and up-to-date study of the technique of the artist, his materials, and his tools. Thirty-eight different techniques, covering the entire field of two-dimensional art, are examined in such a way that the full meaning and importance of each technique as a means of expression and as a creative tool becomes apparent. Speaking both to the layman and the artist, the book is supported by brilliant color and black-and-white illustrations. 352 pages. Praeger. $15.00.

WESTERN KITCHENS. Hundreds of photos, floor plans, diagrams and solid thoughtful text bring the user of this book a wealth of ideas for planning new or remodeling old. 50 open-plan kitchens. $1.50.

MODERN ART IN THE MAKING by Bernard S. Myers. Recent developments in art – including the abstract expressionist movement and changes in the reputations of American and European artists since World War II – are given intelligent coverage in the revision of this highly regarded history and appreciation of modern painting. Myers, editor-in-chief of the McGraw-Hill **Encyclopedia of World Art,** has stressed the relationship of the artist to his society throughout this book. 460 pages. Illus. $10.50. McGraw-Hill.

ENGLISH ART 1800-1870 By T.S.R. Boase. This book, the sixth volume to be published in "The Oxford History of English Art," deals with the period in English art which covers the transition from the aristocratic patronage of the eighteenth century to the new collectors and wider interests in art that developed during Queen Victoria's reign. Nineteenth-century architecture is also taken into consideration as are the applied arts, discussed in connection with the Great Exhibition of 1851 which forms the climax of the story. Oxford University Press.

THE SCULPTURAL PROGRAMS OF CHARTRES CATHEDRAL by Adolf Katzenellenbogen. This is a detailed study of the sculpture of Chartres Cathedral. The author gives us the history and explanation of the creation and significance of the sculpture, as well as its relation to Gothic architecture as exemplified by Chartres. To achieve this ambitious goal, the author necessarily takes us far afield into the literature of the medieval world and studies of iconography from medieval times to the present. More than eighty photographs of the great Cathedral are used, showing its over-all form and its beautiful detail. Here is a book that should be on the shelves of all art historians, architects, religious historians, and medievalists. The author is Professor of The History of Art and Chairman of the Department of Art, The Johns Hopkins University. Illus. 176 pages. Hopkins Press. $10.00.

FRANK LLOYD WRIGHT by Alysea Forsee. A good competently-written biography of the famous architect with a great deal of factual information about many of the buildings that he designed. An interesting book which should appeal strongly to art students as well as to those who simply like biographies. Macrae-Smith. $3.50.

BREAKFASTS AND BRUNCHES – A Sunset Cookbook. This new book fills the needs of the popular new way of entertaining with a breakfast or brunch, which is so leisurely and economical, and a minimum of strain on host and hostess. Breakfast or brunch can be simple – just pancakes with an imaginative touch – or very special. You'll find menus and recipes to prepare right at the table or on the barbecue. Buffet brunches, patio breakfasts, foods to wait for late risers. Simple breakfasts for the family, variety ideas for the children. Special guest breakfasts. Festive holiday breakfasts and tray meals. Well illustrated, attractively bound in washable plastic. $2.95.

WINDOWS AND GLASS IN THE EXTERIOR OF BUILDINGS – A Building Research Institute Book. Reports by specialists on the effect of the use of glass on daylighting, air conditioning, heating, ventilation; the use of exterior and interior controls. Analysis in terms of residential, commercial and industrial building design of the advantages and disadvantages of increased use of glass in all types of construction. 176 pages. Illus. 1957. $5.00.

MODERN MASONRY: NATURAL STONE AND CLAY PRODUCTS – A BRI book. Included in this comprehensive volume are sections on architectural design, the technology of building with masonry, new technical developments, costs and maintenance, and building type analyses for homes, multi-story buildings, institutions and schools. 163 pages. Illus. 1956. $4.50.

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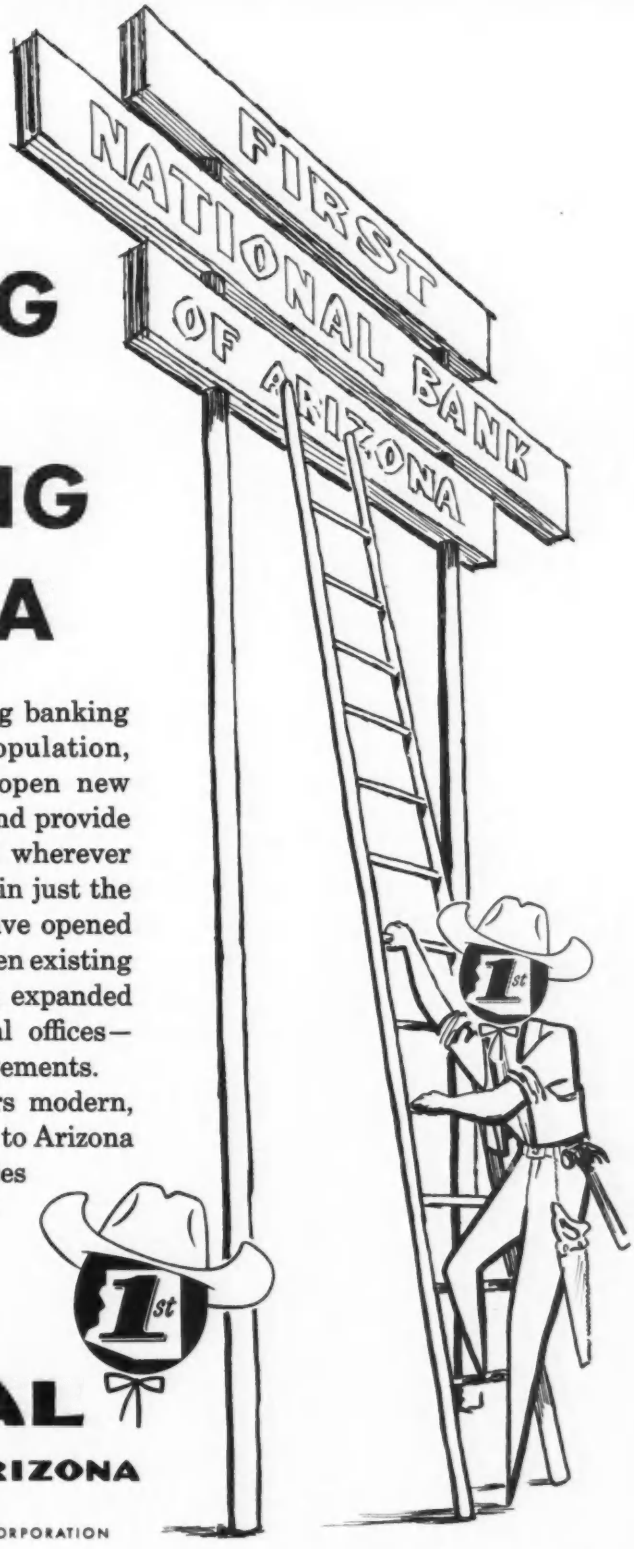

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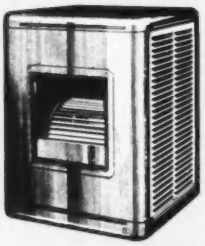

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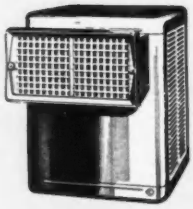

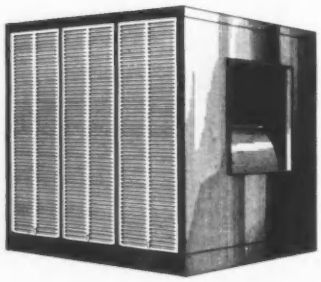

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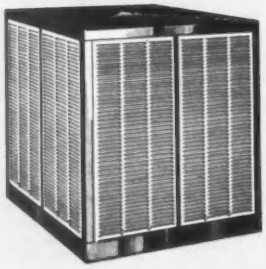

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